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(Junior synonyms in italics)

A REVIEW OF CLASSIFICATION OF THE WATER BEETLES OF THE NEW WORLD GENUS *BIDESSONOTUS* RÉGIMBART (COLEOPTERA: DYTISCIDAE: HYDROPORINAE: BIDESSINI)

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ABSTRACT

Classification of species of water beetles of the New World genus Bidessonotus *Régimbart (Coleoptera: Dytiscidae) is reviewed with illustrations to aid in their determination. New species are described from the following localities:* B. dubius *(Cayenne, Brasil, Suriname, Venezuela)*, B. inigmaticus *(Mexico)*, B. pollostus *(Honduras)*, B. otrerus *(Colombia, Venezuela)*, B. paludicolus *(Costa Rica, Mexico, Venezuela)*, B. pictus *(Costa Rica)*, B. ploterus *(Brasil)*, B. rhampherens *(Mexico)*, B. rubellus *(Panama-Canal Zone, Panama, Venezuela)*.

INTRODUCTION

The genus *Bidessonotus* Régimbart is composed of a number of small water beetles (Coleoptera: Dytiscidae) whose composite range is from Paraguay to Canada. Total length of adult specimens if from about 1.3 to 2.6 mm; maximum width is from about 0.64 to 1.1 mm near middle of elytra. Members of *Bidessonotus* are recognized readily by the common presence of a transverse cervical stria just behind the eyes, impressed pronotal and elytral plicae, thickened but unmargined clypeus, clearly 5-segmented anterior tarsi although protarsomere 4 is short, and by strong dimorphism of males and females. The females are often rather stoutly oval with the elytra showing a purple iridescence; males have the metasternum and inner coxal laminae curved and the middle tibiae curved to varying degrees, evidently as adaptations for grasping the female during copulation.

STRUCTURAL FEATURES

Most of the species of *Bidessonotus* resemble each other closely in size, shape, and vestiture, but the males show great variation in the structure of the external genitalia. The aedeagus (median lobe) resembles a leg with heeled shoe in lateral profile. The parameres are also complex and usually differ on either side. In distinction among species most reliance is placed on the differences in the male external genitalia especially in the lateral outline of the aedeagus. Females may be unidentifiable if not associated with males.

Other characters which differ among species but may be hard to assess are as follows: *Head* with *transverse fronto-clypeal sulcus or impressions* which extend inward from either side and may meet at the middle with various forms of punctation and microsculpture. *Frontal impressions* on either side above the insertions of the antennae may differ in depth or coarseness of the rows of

punctures in them. *Microsculpture* present but usually not conspicuous except in females in which the elytra may appear purplish iridescent. *Pronotum* with punctation various on the disk and especially between the basal pronotal plicae. *Basal plicae on pronotum* are usually about 1/2 the length of pronotum at midline and may be curved or nearly straight. *Pronotal microsculpture* is usually inconspicuous as on the head. *Elytra* vary in degree of punctation of disk and degree of impression of the microsculpture. On female specimens *microsculpture* is always more evident, and on some specimens it results in a distinctly purplish iridescent lustre. The *basal elytral plicae* of most specimens are detectably longer, rarely shorter, than the pronotal plicae and on most specimens they are nearly straight and slanting inward on the disk or parallel with suture. A *preapical elytral tooth* is present in females of several species. On some female specimens it is conspicuous, but the development of the tooth seems too variable to be a reliable taxonomic character. The *venter* may be more darkly colored in some species than in others, but the metacoxal laminae of the majority of specimens are distinctly and very coarsely setate-punctate at middle and with roughened areas approximately where the middle and hind femora may overlap. It is possible that these are stridulatory devices. *Prosternal process* of most specimens is lanceolate toward the tip or process and with a longitudinal sulcus down the middle; members of certrain species lack a medial longitudinal sulcus or it is indistinct. *Last visible sternite* transversely or otherwise impressed and that of most specimens with coarser setate punctures and rough sculpture toward apex. *Mesofemur* of some males modified. *Mesotibia* of most males is curved to some degree.

The structure of the anterior and middle tarsi with the 4th segment reduced but not hidden in the lobes of the 3rd, suggests that *Bidessonotus* is primitive in relation to remainder of Bidessini. However, the structure of the male external genitalia with jointed or segmented parameres (lateral lobes), and the presence of pronotal and basal elytral plicae are feature typical of Bidessini (Biström 1988, Young 1967). I consider *Bidessonotus* to be an ancient and specialized group possibly related to some of the Australian bidessines which would suggest a Gondwanian origin (Young, 1967).

NATURAL HISTORY

The species of *Bidessonotus* are found in a wide variety of natural habitats, but their preferred conditions are usually associated with heavy organic debris in the water. In the southeastern United States, the three species (*B. pulicarius*, *B. longovalis*, and *B. inconspicuus*) are usually found in small pools or the edges of slow streams with considerable vegetation and debris in the water. In South America the species are most abundant in the Hylaen Forest of the Amazon-Orinoco Basin and extend southward into Paraguay and the Argentina. All the species come readily to ultra-violet light, but less abundantly to ordinary white light traps.

MATERIAL

The specimens examined were borrowed from the following museums.

BMNH	British Museum (Natural History), London, United Kingdom.
CASC	California Academy of Sciences, San Francisco, California, USA.
CNC	Canadian National Collection, Ottawa, Ontario, Canada.
FSCA	Florida State Collection of Arthropods, Gainesville, Florida, U.S.A.

MCZ Museum of Comparative Zoology, Cambridge, Mass., U.S.A.
NMNH United States National Museum of Natural History, Washington, D.C., U.S.A.
MNHN Musée National d'Histoire Naturelle, Paris, France.
UMMZ University of Michigan Museum of Zoology, Ann Arbor, Michigan, U.S.A.

CLASSIFICATION

Bidessonotus tibialis Régimbart

Bidessonotus tibialis Régimbart 1985: 337 (Brasil: Mato Grosso, P. Germain, 1886).

Diagnosis.— Specimens are similar to those of *B. pulicarius* but average smaller in size and they possess distinctive external male genitalia (Fig. 1). Fronto-clypeal sulcus narrowly interrupted at middle. Apex of prosternal process lanceolate and narrowly sulcate. Most females with elytra not purplish iridescent. Color pattern seldom evident, usually eliminated by melanization of elytra; if detectible composed of usual lateral dark spots and lighter areas, and two irregular elongate spots or an irregular stripe on disk. Antennae longer and more slender in male than in female, about as in specimens of *B. pulicarius*.

Male.— *Head* finely, sparsely punctate more coarsely so basally. Microsculpture not evident, surface shining between punctures. Fronto-clypeal sulcus distinct, somewhat more broadly interrupted at middle than in specimens of *B. pulicarius*. *Pronotum* punctate about as coarsely and closely as on disk of head; coarsely and irregularly punctate between the basal plicae with punctures in part confluent, but less coarsely and irregularly punctate than on specimens of *B. pulicarius*. Basal plicae about 1/2 as long as pronotum at midline, slanting inward from base and slightly curved basally and recurved apically as in specimens of *B. pulicarius*. *Elytron* with setate punctures about as coarse but closer than those on disk of pronotum. *Microsculpture* between punctures less apparent than on specimens of *B. pulicarius* especially in females which are only feebly iridescent purple on the elytra. *Basal plicae* feebly curved at base and then nearly straight slanting inward (toward suture) on disk and detectably longer than basal pronotal plicae, somewhat longer proportionately than in specimens of *B. pulicarius*. *Venter* very similar to that of specimens of *B. pulicarius* except in sulcation of prosternal process. Metacoxal plates and first and 2nd abdominal sternites with coarse setate punctures, coarser punctures on posterior part of metacoxal lamina as in specimens of *B. pulicarius*.

Female.— Similar to male except for secondary sexual characters.

Color.— Head light yellow to reddish brown; darker behind the transverse cervical suture. Pronotum light yellow, darker along base between plicae as usual. Dark color of base of head visible through translucent front margin of pronotum. Elytra brown, the color pattern usually indistinct in fully hardened adults. Teneral specimens with lighter marginal spots connected to a complex discal stripe or spots. The darker areas on the margins are distinct in teneral specimens, but sometimes obliterated by melanization in mature adults. Venter light brown without much pattern if any. Appendages light yellow brown or brownish yellow.

Distribution.— I have seen this species in numbers from Brazil, Bolivia, and Peru, and suspect that specimens identified as *B. sobrinus* from Colombia, Panama, Suriname, and Venezuela may also represent this species.

Bidessonotus sobrinus J. Balfour-Browne

Bidessonotus sobrinus J. Balfour-Browne 1947: 445, Fig. 10 (Panama).

Diagnosis.— Specimens are very similar to those of *B. tibialis* and probably this is at most a subspecies confined to northwestern South America into Panama. Balfour-Browne (1947: 446) cites the species as being "perfectly distinct by the deeper transverse fronto-clypeal sulcus, the different form of the 'blade' of the aedeagus, the apparently narrower and more elongate form of the female compared to *tibialis*." All of these characteristics vary, and the form of the male external genitalia (Fig. 2) does not clearly distinguish specimens of *B. sobrinus*. Total length 1.4 to about 1.6 mm.

Bidessonotus morosus J. Balfour-Browne

Bidessonotus morosus J. Balfour-Browne 1947: 446, Fig. 11 (Mazatlan, Sinaloa, Mexico).

Diagnosis.— Specimens are similar to those of *B. tibialis*, but they are more lightly pigmented, and exhibit differences in structure of the male aedeagus of the external genitalia (Fig. 3). Male specimens are distinct from those of other species found with it in form of the rounded tip of the blade of the aedeagus. Apex of prosternal process medially sulcate as in specimens of *B. tibialis*. This species is apparently confined to northwestern Mexico (Sinaloa, Jalisco) and does not overlap with the range of *B. tibialis*. Total length: 1.5-1.9 mm.

Male.— *Head* finely and rather sparsely punctate anteriorly, more coarsely and distinctly punctate toward the base much as in specimens of *B. tibialis*. Fronto-clypeal sulcus distinct, rather deeply impressed at sides, narrowly interrupted at middle. Antennae just perceptibly longer than those of female. *Pronotum* with setate punctation on disk finer than on base of head, but much coarser in two rather regular rows in elongate, transverse impressions on either side between the basal plicae. Basal plicae a little more than 1/2 length of pronotum at midline, distinctly impressed and curved inward onto disk; microsculpture evident, but not giving an iridescent cast to surface. *Elytra* with setate punctation on disk about as at sides of pronotum, coarser along base and between the basal plicae; basal plicae curved inward at base and then nearly straight on disk of elytron and nearly parallel to suture; about 1/4 longer than pronotal plica. *Venter* with apex of prosternal process lanceolate and distinctly sulcate, the apex acute. Posterior part of metacoxal laminae and basal sternites of abdomen coarsely setate punctate and sculptured. Last visible abdominal sternite roughly sculptured and punctate, but not distinctly impressed. Middle tibiae curved about as in specimens of *B. tibialis*.

Female.— Similar to male but usually somewhat smaller and with the microsculpture of the elytra more evident. Antennae just perceptibly shorter than those of male. Elytra sometimes iridescent, but not usually with a purplish cast.

Color.— Head testaceous (light yellow) darker yellow brown behind the transverse cervical suture. Pronotum usually light yellow anteriorly but darker between the basal plicae. Elytra dark brown usually without any discal markings except in very teneral individuals; pattern of lighter and darker areas along margin indistinct; the darker areas not as distinct as on specimens of *B. tibialis* but pattern otherwise similar. Venter brown with darker areas along sutures on the coxal laminae, etc. Male and female patterns of elytra usually similar, but females may appear darker because of the microsculpture. Legs brownish yellow.

Distribution.— Besides the types from northwestern Mexico, I have seen this species from other localities in Sinaloa and Jalisco (3.5 mi. N. of LaHuerta, 22 March 1971, J.R. Zimmerman (CASC). Nayarit, San Blas, 5 July 1972, K. Stephen (FSCA). The genus was not recorded from Baja, California by Leech (1948).

Bidessonotus pulicarius (Aubé)

Hydroporus pulicarius Aubé 1838: 494 (United States).

Diagnosis.— A small species about 1.7 to 2.0 mm in length, the females usually smaller than males. Fronto-clypeal sulcus interrupted at middle in both sexes. Venter usually lightly pigmented, the coxal laminae and basal abdominal sternites with large setate punctures in irregular rows. Basal elytral plica slightly longer than pronotal plica. Prosternal process with apex lanceolate, roughly setate punctate, vaguely sulcate. Males usually with brown elytra, but otherwise rather lightly pigmented. Females of two types, one small and stout with microsculpture of most specimens giving elytra a purplish iridescent sheen, the other more slender, male-like, but with straight middle tibiae. Male external genitalia, especially the lateral outline of the middle lobe or aedeagus, diagnostic (Fig. 4); and should separate male specimens of *B. pulicarius* from all species of the genus except those of *B. caraibus*. Female with small but distinct marginal tooth on elytral margin.

Male.— *Head* rather finely and sparsely punctate anteriorly with coarser, closer punctures in the region of the fronto-clypeal sulcus and toward base in front of transverse cervical suture behind the eyes; impunctate behind the transverse cervical suture. *Microsculpture* not very distinct. Disk of pronotum more coarsely and closely punctate than disk of head, about as coarsely and closely punctate as base of head in front of the transverse cervical suture. Base of pronotum between the basal plicae with larger setate punctures in rough rows and with some irregular sculpture. Basal plicae curved at base and curving out onto disk, less than 1/2 as long as pronotum at midline. Setate punctures on lateral parts of pronotum coarser than those on disk. Margin distinct, but irregular. Microsculpture detectible, but surface between punctures shining. *Elytra* with setate punctation on disk somewhat finer than at base of pronotum, but coarser along inner edges of plicae at base. Elytral basal plica curved at base and then nearly straight slanting inward toward the suture; detectibly longer than pronotal plicae. Surface of elytra with evident microsculpture, but surface shining between the microstrigae and not purplish iridescent. Middle tibia feebly but distinctly curved. Outer lamina of metacoxa with rough sculpture and coarse setate punctures in irregular rows in the posterior part. First and second visible sternites with distinct transverse rows of coarse setate punctures. Last visible sternite roughly sculptured and setate punctate, but not distinctly impressed.

Female.— Apparently represented by two different kinds of individuals as given under the diagnosis--many specimens short, stocky, with the elytra distinctly purplish iridescent from the microsculpture or some few specimens male-like with elytra dark or light brown or iridescent, and middle tibiae straight. Balfour-Browne (1947) considered these male-like females which he had not seen to be the females of *B. longovalis*, but they are too small to be that species.

Color.— Head light yellowish brown, darker basally. Pronotum yellowish brown, darker between the basal plicae. Elytra light brown to dark brown in

males and some females or dark purplish in the female. Elytral pattern not distinct in most specimens, but dark subhumeral, postmedian, and preapical spots usually detectible accompanied by lighter subhumeral, postmedian and apical spots. A few teneral individuals examined show marginal spots and irregular discal light spots or stripes. The lateral elytral pattern of dark and light spots seems to be essentially the same as the pattern of the South American species, *B. obtusatus* (Fig. 9a), but less distinct.

Distribution.— I have seen this species from many localities in Florida, southern Georgia, Alabama, Mississippi, and Louisiana, but not farther north in the U.S.A. I believe that older records for Indiana apply to *B. inconspicuus*, but some coastal species extend into southwestern Indiana.

This species may be very widely distributed in the Antilles and Central America. I have seen specimens with identical genitalia from Belize and from Cuba which I have referred to *B. caraibus*.

Bidessonotus caraibus (Chevrolat)

Hydroporus caraibus Chevrolat 1863: 199 (Cuba).

Bidessonotus caraibus; Balfour-Browne 1947: 435 (Redescribed on basis of specimens from Cuba and description of Régimbart 1895: 335 and Sharp 1882: 364).

I am uncertain as to the identity of this species. I believe it is at most a subspecies of *B. pulicarius* which it closely resembles. The outline of the lateral aspect of the male aedeagus of the external genitalia is almost identical (see Fig. 4).

I have examined material I believe represents *B. caraibus* from the following localities (all in NMNH). CUBA: Matanzas, Zapata Swamp northwest of Buenaventura, 1 May 1983, P.J. Spangler and Iliana Fernandez C.; 4 km. northeast of Palpite, Zapata Swamp, 1 May 1983, P.J. Spangler and Iliana Fernandez C.; Zapata Swamp 2 km. northeast of Palpite, 2 May 1983, P.J. Spangler and Iliana Fernandez C.; Cienega Zapata at Playa Larga, 10-11 Feb. 1981, D. Davis and P.J. Spangler; 1 km. east of Playa Larga, Zapata Swamp, 2 May 1983, P.J. Spangler and Iliana Fernandez C. Santa Clara, Cayamas, various dates, E.A. Schwarz. BELIZE: Corazal Town, 30 Aug. 1967 and 1 Sept. 1967, G. and R. Lacy.

Bidessonotus inigmaticus sp. nov.

Diagnosis.— A small species similar to *B. pulicarius* and *B. morosus*, but with distinctive male external genitalia (Fig. 5). Apex of prosternal process broader than in *B. morosus* but medially sulcate. Marginal lightly pigmented areas of elytra more conspicuous than in specimens of *B. morosus*. Basal elytral plicae just perceptibly longer than basal pronotal plicae. Total length 1.3 to 1.76 mm.

Holotype Male.— Total length 1.76 mm, greatest width near middle of elytra 0.8 mm; width of pronotum at base 0.72 mm; width of pronotum at apex 0.72 mm; length of pronotum at midline 0.32 mm. *Head* finely and sparsely punctate anteriorly, the punctures separated by two or more times their diameter. More coarsely and closely punctate posteriorly, but impunctate behind the transverse cervical suture. Fronto-clypeal impression not greatly interrupted at the middle, less so than in specimens of *B. morosus*. *Pronotum* with disk less coarsely and closely punctate than in specimens of *B. morosus*; discal punctures separated by more than 2 times the diameter of each. Punctures between the basal

plicae finer than in specimens of *B. morosus*. Basal plicae curving onto disk, about 1/2 as long as pronotum at midline. *Elytra* with punctures coarser and thus closer than on elytra of specimens of *B. morosus*. Basal plicae curved at base then nearly straight on elytron parallel to the suture and just perceptibly longer than basal pronotal plicae in contrast to being distinctly longer in specimens of *B. morosus*. Microsculpture present but not giving an iridescent sheen to surface. *Venter* coarsely punctate on coxal plates and basal abdominal segments much as in specimens of *B. morosus*. Last visible abdominal sternite with setate punctures, but not impressed, similar to that of *B. morosus* but less coarsely punctate.

Allotype Female (= paratype female).— Very similar to male but slightly smaller and with an iridescent sheen to the elytra due to microsculpture. Prosternal process similar to that of male. Middle tibiae straight. Last visible abdominal sternite similar to that of male. Total length 1.70 mm; greatest width near middle of elytra 0.72 mm; width of pronotum at base 0.56 mm; pronotum at apex 0.40 mm; length pronotum at midline 0.28 mm.

Color.— Both male and female specimens similar to those of *B. morosus* with dark brown elytra and venter except for the pale brownish yellow legs, antennae, and palpi. Color pattern mostly obscured by melanization in mature adults, only areas along the margins and at the apices of each elytron lighter, the usual accompanying dark spots reduced in intensity.

Distribution.— Holotype, allotype, and 4 paratypes from MEXICO: Colima, N. of Manzanillo, 19 Jan. 1961, C.O. Morris (California Academy of Science). Nayarit, San Blas, 24-25 April 1961, Howden & Martin, 1 male, 1 female paratype (CNC).

Bidessonotus inconspicuus (LeConte)

Hydroporus inconspicuus LeConte 1855: 290 (Louisiana).

Diagnosis.— A medium sized species for the genus measuring about 1.76 to 2.2+ mm in length, most female specimens slightly smaller than males. Frontoclypeal sulcus uninterrupted, narrowly interrupted at middle, or with the interruption shallow. Venter usually dark brown, especially on the coxal laminae. Apex of prosternal process in both sexes sulcate but roughly setate punctate. Female specimens with microsculpture more distinct than in males, often purplish iridescent on elytra. Marginal tooth of elytron near outer angle of truncation in female obsolete or reduced, difficult to see. Male external genitalia, especially the lateral outline of middle lobe diagnostic (Fig. 6).

Male.— *Head* punctate much as in specimens of *B. pulicarius* but frontoclypeal sulcus complete across front or only narrowly or shallowly interrupted. Pronotal punctation much as in specimens of *B. pulicarius* allowing for the slightly larger size; basal pronotal plica much as in specimens of *B. pulicarius*. *Elytra* with setate punctures on disk coarser than on specimens of *B. pulicarius*; basal plica curved at base then nearly straight on disk slightly angled toward suture, and detectibly longer than pronotal plica. Microsculpture of elytron less conspicuous than on specimens of *B. pulicarius*. Venter darker in color than on specimens of *B. pulicarius* or *B. longovalis*, but similarly punctate on coxae and basal abdominal sternites. Mesotibiae slightly curved. Fore tarsi not as broadly dilated as in specimens of *B. pulicarius*. Prosternal process with apex sulcate but roughly setate punctate as indicated in diagnosis. Last visible sternite setate punctate and vaguely impressed in a roughly circular area toward apex.

Female.— Similar to male specimens but with elytra often darker and sometimes purplish iridescent as in specimens of *B. pulicarius*.

Color.— Both male and female specimens are similar to those of *B. pulicarius* in color but darker; venter usually dark brown at least in part. The marginal dark and light elytral spots usually indistinct about as in specimens of *B. pulicarius*. Disk of elytra without lighter areas except in very teneral individuals.

Distribution.— I have seen this species in large numbers from northern Florida, Georgia, Alabama, Mississippi, and Louisiana and more rarely from Arkansas, Tennessee, Kentucky, Maryland, Michigan, Illinois, Massachusetts, South Carolina, North Carolina, New York, New Jersey, Indiana, and eastern Texas. It probably occurs in most of the eastern United States and southern Canadian provinces. I have not encountered it in southern Florida although it is recorded from Dunedin and Royal Palm State Park (W.S. Blatchley coll.) by Balfour-Browne (1947).

The size, darker color, and distinctive outline of the aedeagus of the male external genitalia (Fig. 6) should distinguish this species. The lateral outline of the aedeagus suggests that of specimens of *B. championi* (Fig. 7), but the two species occur in different regions and are distinct in a number of characteristics of size, color, and structure.

Bidessonotus championi Balfour-Browne

Bidessonotus championi Balfour-Browne 1947: 436, Fig. 6 (Guatemala).
Bidessus adumbratus; Sharp 1882: 25, in part.

Diagnosis.— A medium sized species about 1.8 to 2.0 mm in length. The outline of the aedeagus of the male external genitalia (Fig. 7) is similar to that of *B. inconspicuus* (LeConte) but is diagnostic. Head finely punctate with the fronto-clypeal sulcus almost complete across front. Pronotum moderately coarsely punctate, less so than in some species, with some irregular and coarser sculpture along the inner margins of the plicae. Basal pronotal plicae curved at base then almost straight slanting inward on disk but less than 1/2 length of pronotum at middle. Elytra coarsely and densely setate-punctate with microsculpture between the sculptures in both sexes but not giving a purplish sheen to the surface. Basal elytral plicae curved at base, as if continuing curves of pronotal plicae, then straightening on the disk and slanting toward suture, about 1/4 or less longer than pronotal plicae. Apex of prosternal process narrowly lanceolate, sulcate in both sexes. Outer coxal laminae coarsely setate-punctate, but punctures not very deep. Impressions on either side of basal abdominal sternites more conspicuous in female than in male. Last visible sternite in male with coarse elongate sculpture toward apex and with tiny rounded impressions on either side of base.

Female.— Head and pronotal punctation and pronotal and elytral plicae similar, but with elytral punctation less impressed and microsculpture giving a purplish iridescence to surface.

Color.— Head yellowish brown to dark brown on base and front and along either side adjacent to the eyes; base of head of most specimens very dark brown, visible through the anterior margin of pronotum; pronotum yellowish brown with dark area between the plicae along the base; elytra dark brown with usual indications of lighter and darker areas along edges; venter yellowish brown to dark brown with appendages and epipleura of elytra brownish yellow; abdomen appears to be darkly banded transversely in some specimens.

Distribution.— Besides the type from Paso Antonio, GUATEMALA, 400 feet (Champion) in the Biologia Americana material (BMNH) typical males of this species were seen from HONDURAS: 5 mi. E. of Choluteca, 28 July 1965, P.J. Spangler (NMNH). COSTA RICA, 12 mi. S.W. of Liberia, 25 July 1965, P.J. Spangler (NMNH). NICARAGUA, 2 mi. W. Nadaime, 13 July 1974, L.B. O'Brien, BLT (NMNH), 13 mi. S. San Benito, 11 July 1965, P.J. Spangler (NMNH).

Bidessonotus longovalis (Blatchley)

Bidessus longovalis Blatchley 1919: 310 (Florida: Dunedin, LaBelle, Kissimmee.)

Diagnosis.— Most specimens are distinguishable from species with which it occurs by the larger size (length 1.75-2.4 mm) and the long basal elytral plicae which are distinctly longer than the basal pronotal plicae. Apex of prosternal process setate punctate not sulcate. Female specimens are similar to males but smaller. The punctation of the dorsum is coarse and punctures are sometimes confluent giving the appearance of rugae. The male external genitalia, especially the lateral aspects of the middle lobe or aedeagus, is diagnostic (Fig. 8).

Male.— Disk of head more coarsely punctate than in specimens of *B. pulicarius* or *B. inconspicuus* with coarser punctures toward base as usual. Fronto-clypeal sulcus shallowly interrupted at middle. *Pronotum* with disk more coarsely punctate than in species with which it may occur; more coarsely punctate and with confluent punctures forming elongate grooves between the basal plicae. Plicae about 1/2 length of pronotum at midline, curved at base and nearly straight angling inward onto disk. *Elytra* coarsely setate punctate, more coarsely so than in specimens of *B. pulicarius* or *B. inconspicuus.* Microsculpture not very evident, surface shining between the punctures. Basal plicae curved at base, nearly straight but slanting inward on disk toward the suture; distinctly longer than pronotal plicae. Tips of elytra feebly truncate. Prosternal process with setate punctures, but not sulcate or canaliculate. Coxal and basal abdominal punctation similar to specimens of *B. pulicarius.* Last visible sternite setate punctate and irregularly depressed before apex. Middle tibiae slightly curved. Fore tarsi not as strongly expanded comparatively as in specimens of *B. pulicarius.*

Female.— Similar to male with a small tooth on the outer margin of elytron near outer end of truncation (difficult to see but usually distinct). Female elytra without strong iridescence produced by microsculpture.

Color.— Head and pronotum about as in specimens of *B. pulicarius* and *B. inconspicuus.* Elytra dark brown with the marginal dark spots and light areas inconspicuous or lacking. Epipleurae yellowish brown, narrower than in specimens of *B. pulicarius.* Venter yellow brown with darker areas along sutures and in other areas.

Distribution.— This species is known only from Florida, Alabama (Washington County), and Georgia (Terrell County). In Florida it occurs abundantly in the peninsular counties.

Bidessonotus obtusatus Régimbart

Bidessonotus obtusatus Régimbart 1895: 336 (Brazil, Paraguay). Type species of *Bidessonotus*, designated by Balfour-Browne, 1947:427.)

Diagnosis.— A medium sized species about 1.6 to 2.2 mm in length with distinctive male external genitalia (Fig. 9). Fronto-clypeal sulcus impressed at sides but obsolete in middle with the impression of two tiny tubercles. Pronotum with coarse punctures and sculpture along base between plicae; basal plicae distinctly impressed, curved inward at base then feebly recurved toward outer margin on disk, about 1/2 length of pronotum at midline. Elytra moderately coarsely and closely not deeply setate punctate, basal elytral plicae sligthtly curved at base then nearly straight, about 1 1/4 times as long as pronotal plicae. Apex of prosternal process narrow, not sulcate, but with setate punctures. Middle tibiae curved. Last visible sternite roughly punctate toward apex, impressed on either side of base.

Color.— Specimens of this species are generally yellow or yellowish brown with elytra dark to very dark brown; teneral pattern of the elytra distinctive (Fig. 9a). Many specimens have a characteristic light spot on the disk of each elytron covering the tip of the elytral plica.

Distribution.— This species is widespread in the Hylaen Forest in Brazil, Bolivia, Cayenne, Colombia, Ecuador, Peru, Suriname, and Venezuela south to Paraguay and Argentina. I have seen several hundred specimens of this species which is abundant in ultraviolet light trap collections from most of the countries listed above.

Comments.— The closest relatives of *B. obtusatus*, to judge from the configuration of the male external genitalia, are *B. pollostus, B. rubellus, B. dubius*, and B. *ploterus*.

Bidessonotus nepotinus J. Balfour-Browne

Bidessonotus nepotinus Balfour-Browne 1947: 443 (Trinidad).

Described from a female and not recognized in the material examined. According to the original description the insect appears to be very close to *B. obtusatus*.

Bidessonotus nepotinus is described as being 2.152 to 2.165 mm in length by 1.050 to 1.085 wide at widest point of elytra. Fronto-clypeal impression or sulcus shallow, widely obsolete (broadly interrupted) at middle. Transverse cervical stria very fine, rather obsolete and indistinct. Pronotum with basal plicae distinctly curved, slightly oblique, quite strongly and widely impressed, about 1/2 length of pronotum from the base. Basal plicae of elytra slightly oblique, weakly sinuate, rather shallow but distinctly impressed about 1 and 1/4 times the length of the pronotal plicae. Apex of prosternal process lanceolate but not or very feebly sulcate. Last visible sternite densely, finely, obsoletely punctate.

Color.— The color pattern is described as being represented on the elytra by three transverse bands, one at the base widest in the middle and tapering toward each side, one in the middle not quite attaining the margins, and one post medially both anteriorly and posteriorly sinuate. None of the bands very distinct or sharply limited. The head, antennae, legs, and venter yellowish brown.

Distribution.— Known so far only from Trinidad (MCZ).

Bidessonotus dubius sp. nov.

Diagnosis.— Specimens are similar to those of *B. obtusatus* Régimbart, but averaging larger in size and with similar but distinctive male external genitalia

(Fig. 10). Teneral color pattern similar to that of specimens of *B. obtusatus*. Elongate spot on elytra at apex of elytral plica occasionally present. Punctation of head and structure of transverse fronto-clypeal sulcus interrupted at middle much as in specimens of *B. obtusatus*. Pronotal and elytral punctation also similar to that of adults of *B. obtusatus*, but elytra of many specimens uniformly dark, purplish. Elytral plicae about 1 1/4 times as long as pronotal plicae, slightly longer and more curved than in specimens of *B. obtusatus*. Apex prosternal process not sulcate. Mesotibiae and mesofemora similar to those of *B. obtusatus*. Last visible sternites similar to those of *B. obtusatus*, the tiny circular impressions on either side of base somewhat more conspicuous. Total length about 1.7 to 1.9 mm.

Holotype Male.— Oblong, irregularly oval, the greatest width near middle of elytra. Moderately convex above and almost flat below but mesosternum and coxal plates slightly concave along midline. Total length 1.8 mm; greatest width near middle of elytra 0.88 mm; width of pronotum at apex 0.48 mm; width of pronotum at base 0.72 mm; length of pronotum along midline 0.24 mm. *Head* finely sparsely punctate anteriorly somewhat more coarsely but shallowly punctate on front between eyes, impunctate behind transverse cervical suture; punctation finer and less impressed than on specimens of *B. inconspicuus*, about as in those of *B. obtusatus*; microsculpture inconspicuous. *Pronotum* with punctation of anterior part and most of disk fine, sparse, similar to that on front; base of pronotum between basal plicae irregularly sculptured near the curved plicae, but not conspicuously coarsely setate punctate; pronotal plicae curved inward, deeply impressed, a little more than 1/2 length of pronotum at midline; microsculpture detectible throughout but most of surface appearing smooth, shining. *Elytra* with setate punctation coarser and denser than on pronotal disk, but much finer and shallower than on specimens of *B. inconspicuus*; microsculpture evident throughout, the minute areas between the mostly transverse strigae appearing smooth and shining; basal elytral plicae slightly curved inward (toward elytral suture) at base, then almost straight on disk parallel with suture and detectibly longer than basal pronotal plicae, deeply impressed. *Venter* with punctation of hind coxae and abdominal sternites shallow, not conspicuous; prosternal process narrow, and with apex covered with closely set, yellow setae not detectibly sulcate. Mesotibiae thickened, curved, somewhat heavier than in *obtusatus*. Mesofemora without teeth. Last visible sternite more coarsely setate punctate toward apex but not distinctly impressed, with tiny rounded impressions on each outer corner of the base. Aedeagus of male external genitalia less extended than on males of *B. obtusatus* (Fig. 9).

Allotype Female (= paratype female).— Similar to male except for the secondary sexual characters and distinct discal light spots on elytra. Rounded impressions on base of last sternite reduced in comparison to male. Elytral plicae just detectibly longer than pronotal. Total length 1.76 mm; greatest width near middle of elytra, 0.88 mm; width of pronotum at apex 0.48 mm; width of pronotum at base 0.72 mm; length of pronotum on midline 0.24 mm.

Color.— Male and female specimens are similar. *Head* and pronotum brownish yellow, darker brown along base of head and base of pronotum. *Elytra* dark, purplish brown. Lighter color pattern not conspicuous, lighter spots along outer margin consist of subhumeral, postmedian and preapical spots with a distinct lighter spot near apex of each elytral plica as in some few specimens of *B. obtusatus*.

Distribution.— Holotype male, allotype, plus 1 male and 4 female paratypes from VENEZUELA: Mirando, Panaquire, 18-22 Feb. 1982, at Black

Light Trap (Ultraviolet light), J.H. Frank (FSCA). Other paratypes from the following localities: VENEZUELA: Guarico, 32 kms. S.W. of Calabozo, 11 Feb. 1969, Paul and Phyllis Spangler (84, in NMNH); 44 kmns. S. of Calabozo, 11 Nov. 1969, Paul and Phyllis Spangler 153, NMNH); 44 kms. S. of Calabozo, Mata Masagural, 5 Mar. 1986, P.J. Spangler (737, NMNH); 12 kms. S. of Calabozo, 6-12 Feb. 1969, Paul and Phyllis Spangler (1, NMNH); Guarico, San Fernando, 12 Feb. 1969, Paul and Phyllis Spangler (167, NMNH). Bolivar, Medio Orinoca, Isla Cuba o Playa del Medio, Selva humeda, 12 Feb. 1962, Carlos Bordon (4, FSCA). BRASIL: Mato Grosso, Jacare, Parque Nacional Xingu, Nov. 1963, Moacir Alvarenga and W.C.A. Bokermann (17, FSCA); Mato Grosso, S 12° 31' W 55° 37', Oct. 1974, (1 male, 1 female, CNC). CAYENNE: Marispassula, Lawa River, 3 Dec. 1953, Borys Malkin, in waterfilled canoe (11, in FSCA). SURINAME: 25 km n. S. Paramaribo, 12 July 1969, Paul and Phyllis Spangler (1 ♀ NMNH).

Comments.— This species is closely related to *B. obtusatus*. However, they are largely sympatric, *B. obtusatus* occurring from Panama and Venezuela to Paraguay and Argentina, throughout Brazil and in eastern Bolivia. *B. dubius* occurs abundantly in Venezuela, but seems to be rare in Brasil.

Bidessonotus rubellus sp. nov.

Diagnosis.— A medium-sized species about 1.6 to 1.9 mm in total length. Male external genitalia similar to those of *obtusatus* but distinctive (Fig. 11). Fronto-clypeal sulcus impressed without interruption at middle. Elytral plicae about 1/2 again as long as pronotal plicae. Apex of prosternal process lanceolate, but not conspicuously widened and not sulcate. Metacoxal laminae and basal abdominal sternites coarsely punctate with serial punctures impressed.

Holotype Male.— Elongate, irregularly oval, convex above and flattened ventrally with usual concavity of metasternum and metacoxal laminae in lateral aspect. Total length 1.84 mm; greatest width near middle of elytra 0.96 mm; width pronotum at base 0.78; width pronotum at apex 0.48; length of pronotum at midline about 0.28 mm. *Head* with clypeus very finely and very sparsely punctate; front finely and sparsely punctate, more coarsely and densely punctate between eyes in front of transverse cervical stria; fronto-clypeal impressions distinct, not interrupted in middle with dense fine irregular punctures at either side and extending in rows onto disk. *Pronotum* with setate punctures coarser and denser than on disk of front; basal plicae curved inward, distinctly impressed, about 1/2 length of pronotum at midline; coarser punctures and rugose sculpture along base, less conspicuous than in several other species. *Elytra* moderately coarsely setate punctate, but punctures not deeply impressed; microsculpture evident throughout with surface not strongly shining, not strongly iridescent; basal plicae curved at base then nearly straight on disk, well impressed and about 1/2 again as long as pronotal plicae. *Venter* with apex of prosternal process lanceolate, but not conspicuously widened and not sulcate; middle tibiae curved. Metacoxal laminae and basal abdominal sternites with rows of large impressed punctures. Area on hind margins of coxal laminae with sculpture somewhat coarser than microsculpture possibly forming a stridulatory organ. Last visible sternite with setate punctures over whole surface, but punctures not very conspicuous; rougher rugose sculpture toward apex; impressions at either side of base not conspicuous.

Allotype Female (= paratype female).— Very similar to male except for secondary sexual characters. Size almost the same as male. Fronto-clypeal

impressions similar, complete across front. Some paratypes with fronto-clypeal impressions interrupted at middle.

Color.— Adult specimens are generally brownish yellow with base of pronotum narrowly darker, elytra darker brown with a vaguely reddish cast, not very purplish, and venter yellowish brown with areas of darker brown. *Head* brownish yellow, darker brown behind transverse cervical suture. *Elytra* with pattern vaguely indicated, similar to that of specimens of *B. obtusatus* with lateral spots and very vague discal spots on elytra.

Distribution.— Holotype male, allotype female (= paratype female), and 3 paratypes from PANAMA. C.Z. Albrook Forest Site, Ultraviolet trap at ground level, 8-9 June 1967, R.S. Hutton; (NMNH). Same data except 10-11 Aug. 1967, 21-22 Dec. 1967, 5 (NMNH). PANAMA, Tocumen, Ultraviolet light trap, 1-5 June 1970; 20-24 July 1940, 31 Aug.-4 Sept. 1970, 31 Aug. 1970 Diego Navas, 6 (FSCA). ECUADOR: Los Rios, Babahoya, Blacklight trap, 21 June 1975, Cohen, Langley, and Monnig, 2 (NMNH). COLOMBIA: Amazonas, Leticia, 19-25 Feb. 1972, Henry and Ann Howden, 700; 2 males (Canadian National Collection). VENEZUELA: Guarico, 32 kms. W. of Calabozo, 11 Feb. 1969, Paul and Phyllis Spangler, 1 (NMNH). PARAGUAY: Central, Aragua, 26-27 Apr. 1980, Paul J. Spangler, 1 male (NMNH). Paraguari, 25 kms. S.E. of Ybycui in Ybycui National Park, 12-24 Apr. 1980, Paul J. Spangler, 1 male (NMNH).

Bidessonotus ploterus sp. nov.

Diagnosis.— A small species resembling *B. obtusatus* but with the clypeus finely and densely punctate, the prosternal process with lanceolate apex sulcate, and distinctive male external genitalia (Fig. 12). Generally brownish in color throughout without very much lightening of the margins or venter and no apparent color pattern in mature specimens. Total length about 1.3 to 1.8 mm, greatest width near middle of elytra about 0.64 to 0.72 mm.

Holotype Male.— Elongate, roughly oval, convex above and flattened below with usual concavity of meso- and metasterna and coxal laminae. Total length 1.6 mm; greatest width near middle of elytra 0.72 mm; width of pronotum at base 0.56 mm; width of pronotum at apex 0.36 mm; length of pronotum at midline 0.24 mm. *Head* with clypeus finely and rather densely punctate and front back to between the eyes about as coarsely but less densely punctate than on clypeus. Fronto-clypeal sulcus not strongly impressed, but evident on either side and interrupted in middle. Front with small tubercles at either side above the ends of the fronto-clypeal impression. *Pronotum* finely punctate on disk and anterior part, about as coarsely and densely punctate as front of head; coarsely, irregularly punctate along base between the plicae with rugose sculpture and roughly punctate and sculptured also outside the plicae along the base; plicae curving inward, about 1/2 length of pronotum at midline, deeply impressed with especially rough sculpture immediately next to the inner edges. *Elytra* with rather fine, shallowly impressed setate punctures often confused with the microsculpture; microsculpture evident, surface not strongly shining, but only feebly purplish; plicae slightly curved at base but nearly straight on disk, about same length as pronotal plicae. *Venter* with prosternal process lanceolate, distinctly sulcate along most of its length. Mid-tibiae moderately curved. Hind coxal laminae not coarsely or deeply punctate, but setate punctures in transverse rows as usual intermixed with microsculpture and some rough sculpturing; posterior margin of hind coxal laminae with fine sculpture suggesting a stridulatory organ; first and 2nd abdominal sternites not coarsely punctate, but

setate punctures in rows as usual; last visible sternite not very coarsely punctate but with rugose sculpture toward the apex; lateral basal impressions not conspicuous.

Allotype Female (= paratype female).— Very similar to male except for secondary sexual characters. Tubercles on head reduced. *Color.* very similar, elytra darker somewhat purple iridescent. A few paratype females show traces of pattern especially along edges of elytra.

Color.— Specimens are somewhat more uniformly brown than most species. (Possibly discolored, but other species from same collection do not appear particularly darker than usual.) Head, pronotum, and elytra yellow brown, somewhat lighter along clypeus and anterior and lateral parts of the pronotum, darker along bases as usual. Edges of elytra, legs, mouthparts, and abdominal sternites somewhat lighter yellow brown. *Venter* with metacoxal laminae darker brown.

Distribution.— Holotype, allotype and 15 male and female paratypes from BRASIL: Mato Grosso, Parque Nacional Xingu, at light, Nov. 1965, Moacir Alvarenga, and W.C.A. Bokermann (FSCA). One female paratype Mato Grosso, Tapirape, at light, 26 July 1963, Boris Malkin (FSCA).

Bidessonotus otrerus sp. nov.

Diagnosis.— A small species about 1.5 to 1.8 mm in total length. Male external genitalia (Fig. 13) diagnostic. Apex of prosternal process narrow and feebly sulcate. Front of head and part of venter dark brown. *Pronotum* brownish yellow except narrowly along the base and lateral margins which are dark brown. *Elytra* lighter brown than head, moderately coarsely and regularly punctate, not purple iridescent.

Holotype Male.— Elongate, irregularly oval, convex above, flattened below except for usual metasternal-coxal lamina concavity. Total length 1.7 mm; greatest width near middle of elytra about 0.8 mm; width of pronotum at base 0.64 mm; width of pronotum at apex 0.44 mm; length of pronotum at midline 0.28 mm. *Head* with clypeus finely and sparsely punctate; front between the eyes about as finely but more closely and irregularly punctate; rest of front about as finely punctate but more sparsely and more in rows; punctation coarser and closer on either side near the fronto-clypeal sulcus; fronto-clypeal sulcus distinct at sides obsolete at middle. *Pronotum* setate punctate about as finely but more regularly than on anterior part of front; punctation and sculpture between the plicae relatively fine, without rugose areas; microsculpture transverse, evident over entire dorsum; pronotal plicae deeply impressed at bases, curved inward, less than 1/2 length of pronotum at midline. *Elytra* moderately coarsely and regularly setate punctate; microsculpture evident throughout, surface not strongly shining; basal plicae fairly straight, impressed, slightly longer than pronotal plicae. *Venter* with metacoxal laminae moderately punctate in rows; posterior border of coxal laminae with apparent stridulatory area; abdominal sternites 1 and 2 also with moderately large punctures in transverse rows at sides; all sternites with setate punctures but setae more evident than punctures. Prosternal process with apex somewhat widened and feebly sulcate. Last sternite with coarse rugose sculpture toward apex, but lateral impressions on either side of base not conspicuous. Middle tibiae curved.

Allotype Female (= paratype female).— Similar to male except for secondary sexual characters.

Color.— Head with clypeus brownish yellow, rest of front and clypeus dark brown; pronotum mostly brownish yellow on disk and at sides narrowly dark brown along the base and lateral margins; elytra lighter brown than head, with vague brownish yellow spots along sides roughly conforming to a subhumeral, postmedian, and apical light spots (in some specimens with darker spots between the light spots as in specimens of *B. obtusatus*; epipleurae lighter brownish yellow; venter with lower aspect of head, mouthparts, antennae, mesosternum, and lateral parts of prosternum, and legs brownish yellow, but metasternum, metacoxal laminae, and abdominal sternites dark brown, about same color as front of head.

Distribution.— Holotype, allotype, and 68 paratypes from: COLOMBIA, Magdelena, 8 km E. of Baranquilla, 19 March 1969, Paul and Phyllis Spangler (NMNH); 1 paratype same data except 18 March 1969, (NMNH). VENEZUELA: Mirando, Panaquire, 1-13 Aug. 1983, ultraviolet light trap, J.H. Frank, 1 male paratype (FSCA).

Bidessonotus pollostus sp. nov.

Diagnosis.— A small dark species about 1.3 to 1.6 mm long, the female smaller than male. Aedeagus of male external genitalia (Fig. 14) somewhat similar to that of *B. obtusatus*, but with blade longer. Fronto-clypeal sulcus nearly complete across front. Setate punctation of dorsum less impressed than in many species, the surface shining between the punctures. Microsculpture evident, but not giving a distinct purple iridescence to elytra in either male or female. Pronotal plicae somewhat longer and more deeply impressed than in most species. Elytral plicae longer than pronotal. Prosternal process in male rounded at apex and rather broadly sulcate; female similar. Last visible sternite in male with rather fine setate punctures but with irregular oval impressions on either side. *Female* without distinct tooth at outer end of apical truncation of elytra. *Color*. almost uniformly dark brown on dorsum and venter.

Holotype Male.— Oblong oval, not very much arched in lateral profile. Total length 1.60 mm, greatest width near middle of elytra about 0.72 mm; width of pronotum at base 0.56 mm; width of pronotum at apex about 0.48 mm; length of pronotum at midline about 0.28 mm. *Head* finely and sparsely punctate on clypeus and front somewhat more coarsely on disk. *Pronotum* finely and shallowly punctate on disk, somewhat more coarsely setate punctate at the sides, but relatively finely and sparsely between the basal plicae; rough sculpture between plicae reduced; plicae a little more than 1/2 length of pronotum at midline, deeply incised, slightly curved inward onto disk. *Elytra* rather finely, sparsely, and shallowly setate punctate; basal plicae longer than pronotal plicae, nearly straight, slanting inward. *Venter* with prosternal process and last visible sternite as described under diagnosis above. Basal abdominal sternites and metacoxal laminae with coarse series of punctures as usual.

Allotype Female (= paratype female).— Similar to male, but smaller. Total length 1.36 mm, greatest width near middle of elytra 0.64 mm, width of pronotum at base about 0.56 mm, width of pronotum at apex about 0.48; length of pronotum at midline about 0.28 mm. *Color*. very similar to the male, darker than any other species of *Bidessonotus* seen except for some *B. melanocephalus*.

Color.— Predominantly dark with front of pronotum, legs, antennae, and palpi lighter yellowish brown.

Distribution.— I have seen this species only from the type locality: BELIZE: Coraxol Town, 30 Aug. 1967, G. and R. Lacey (NMNH). Holotype and allotype only.

Bidessonotus vicinus J. Balfour-Browne

Bidessonotus vicinus Balfour-Browne 1947: 428 (British Honduras, Punta Gorda).

This species was described from the female, but I have no doubt that the species treated here as *B. vicinus* is the same. The male genitalia (Fig. 15) are diagnostic. In mature individuals the head is distinctly brown. The melanization of the elytral is reduced so that they sometimes appear lightly striped with brown and usually have much darker spots associated with the usual light spots along the sides of the elytra above the epipleura. Fronto-clypeal sulcus nearly complete across front. Prosternal process narrowly lanceolate, sulcate. Elytral plicae slightly longer than pronotal plicae. The total length is only about 1.5 to 1.7 mm.

Distribution.— Besides the type females, I have seen material from the following localities. PANAMA: C.Z. Albrook Forest Site, ultraviolet light trap at ground level, 14-15 July; 21-30 July, and 14-18 Dec. 1967, R.S. Hutton (NMNH). BRITISH HONDURAS: Cayo District, Mile 66 on Western Highway, ultraviolet light trap, 30 June, 1969, W. and D. Hasse (FSCA); Cayo District, 14 km S. San Ignacio, 23 V. 1986, P.J. Spangler and Robin A. Faitoute. VENEZUELA: Miranda, Panaquire, ultraviolet light trap, 22 Feb. 1984, J.H. Frank (FSCA).

Bidessonotus mexicanus Régimbart

Bidessonotus mexicanus Régimbart 1895: 333, plate 8, Figs. 10, 11. (Mexico on tobacco.)

Diagnosis.— A medium sized species about 1.6 to 2.1+ mm in total length. Outline of the aedeagus of the male external genitalia diagnostic, blade with a distinctive upper and lower tooth or point (Fig. 16). Fronto-clypeal sulcus nearly or quite complete across front. Discal elytral plicae about 1 1/2 times as long as those on the pronotal base. Apex of prosternal process not very wide but distinctly sulcate. Elytral pattern in teneral specimens with humeral, median, and preapical dark spots at margin, and part of disk irregularly brown (Fig. 16a). Most specimens have only a vague indication of elytral pattern. Base of head, base of pronotum between the plicae, and the elytra usually brown to dark brown.

I have not seen the male specimens cited by Régimbart in the original description. Régimbart gives the range of total length of his specimens as from 1 7/8 (=1.8mm+) to 2 1/8 (= 2.1 mm+). J. Balfour-Browne says that his female from which he redescribed *mexicanus* measured 2.034 mm. I have not seen specimens over 1.8+ mm.

Distribution.— Mexico, San Luis Potosi, stream near Palmira, 20 July 1969, F.N. Young (FSCA). Vera Cruz, Lake Catemaco ("Coyame"), ultraviolet light trap, 5 July 1963, R.E. Woodruff (FSCA); 15 mi. S. Tantoyuca, 28 August 1965, P.J. Spangler (NMNH). Tamaulipas, Rio Frio at Limon, 11 June 1960, F.N. Young (FSCA); Rio Guayalejo near Magiscatzin, 11 June 1960, F.N. Young (FSCA); ditch N. of Mante, 12 June 1960, F.N. Young (FSCA). Tabasco, Villahermosa, 25 July 1965, P.J. Spangler (NMNH). Jalisco, 1 mi. N.W. Mazimitla, 8 February 1953, I.J. Cantrall (UMMZ). Nayarit, San Blas, 24-26

April 1961, Howden & Martin (Cal. Acad.) BELIZE, Cayo District, Mile 66 Western Highway, 30 June, 3 July, 7 July 1969, W. and D. Hasse (FSCA). U.S.A.: TEXAS: Trinity County, Pond on Hwy. 96 near Vair, Oct. 4, 1980, G. Challet (FSCA), new U.S. record.

Bidessonotus pictus sp. nov.

Diagnosis.— Similar to *B. mexicanus* Régimbart, but lacking the dorsal tooth on the male aedeagus (Fig. 17), the elytral plicae shorter than the pronotal plicae, and the microsculpture reduced especially on the elytra which under low magnification appear smooth and shining. Color. pattern distinct in all specimens seen, but all are somewhat teneral so that pattern may be inapparent in fully mature specimens. *Head* and pronotal punctation similar to that of *mexicanus*, but elytral setate punctures deeply impressed and the microsculpture between them greatly reduced. Fronto-clypeal sulcus distinct at sides but broadly interrupted at middle. Last visible sternite more finely punctate than in *mexicanus*, the impression on base at either side deep, conspicuous in proper light. Total length of males about 1.68 to 1.76 mm; greatest width near middle or elytra about 0.80 to 0.88 mm. Females total length about 1.60 to 1.68 mm; greatest width near middle of elytra about 0.80 mm.

Holotype Male.— Oblong, irregularly oval, the greatest width near middle of elytra; not very convex above and almost flat ventrally but with mesosternum and coxal plates slightly concave along midline. Total length 1.68 mm; greatest width near middle of elytra 0.80 mm; width of pronotum at apex 0.48 mm; width of pronotum at base about 0.64 mm; length of pronotum at midline about .024 mm. *Head* finely sparsely punctate anteriorly and on front. Fronto-clypeal impressions distinct at sides but rather broadly interrupted at middle. *Pronotum* with sides regularly curved wider across middle than elytral bases. Punctation of pronotum in anterior part and most of disk moderately fine and sparse. Base of pronotum between the basal plicae more coarsely irregularly punctate especially near the incurving plicae. Pronotal plicae incurved, distinct, slightly longer than 1/2 length of pronotum at midline. Head and pronotum with very fine microsculpture giving touches of iridescence in certain lights. *Elytra* with setate punctures deeply, regularly, and rather densely distributed, the punctures coarser than in *B. mexicanus* and about as in *B. inconspicuus*. Microsculpture not deeply impressed, inapparent in part, not imparting a purplish iridescence to elytra as in *B. pulicarius* and several other species. Basal elytral plicae lightly curved toward margin and distinctly shorter than pronotal plicae. *Venter* with outer laminae of coxal plate coarsely but rather shallowly punctate in part. Mesosternum and inner laminae of hind coxal plates appearing impunctate except for some setate punctures along margins. Abdominal sternites with coarse punctures on basal sternites. Last visible sternite less coarsely setate punctate than in *B. mexicanus*, but the oval impressions on either side of base deep, regular, and conspicuous in proper light. Prosternal process with apex broadly lanceolate, shallowly sulcate on apex, but not sulcate nor densely setate in front of fore coxae. Mesotibiae thickened, gently curved.

Allotype Female (= paratype female).— Very similar to male except for secondary sexual characters. Apex of prosternal process broadly lanceolate but not distinctly sulcate. Size almost identical to male. *Elytra* with more evident microsculpture, but not as purple as in some species.

Color,— Holotype, allotype, and paratype females with very similar color patterns on elytra (Fig. 17a). Head and thorax yellow with darker brown along

pronotal base between the plicae. *Venter* mostly yellowish with darker brown areas along sutures, at joints, and other hardened areas as usual.

Distribution.— Holotype, allotype, 2 males, and 1 female paratype from: COSTA RICA, Puentarenas, 22 July 1955, P.J. Spangler (NMNH).

As indicated this species is close to *B. mexicanus*, but seems distinct in several characters. The prettily spotted elytral pattern of the type specimens may be illusory and fully hardened adults are probably more uniformly colored.

Bidessonotus paludicolus sp. nov.

Diagnosis.— A small species about 1.5 to 1.7 mm in length and about 0.8 mm wide near middle of elytra. Similar to *B. mexicanus* Régimbart, but with distinctive male external genitalia (Fig. 18). Head with fronto-clypeal sulcus less impressed at middle but not distinctly interrupted. Apex of prosternal process sulcate (shortened and bent in holotype, but similar to that of *B. mexicanus* in paratypes). Pronotal plicae impressed, curved at base but nearly straight slanting inward on disk. Elytral plicae impressed, curved at base but nearly straight slanting inward on disk, a little longer than pronotal plicae. Color pattern usually not evident in mature individuals. Elytra not conspicuously iridescent in either sex. Teneral pattern of paratypes shows vague stripes on disk of elytra and a subhumeral, postmedian, and preapical dark spot along elytral margins with lighter areas between them and at apex.

Holotype Male.— Elongate, irregularly oval, convex above and flattened below as usual except for usual concavity of the metasterna and metacoxal laminae. Total length 1.68 mm; greatest width near middle of elytra 0.8 mm; width of pronotum at base 0.68 mm; width of pronotum at apex 0.40 mm; length of pronotum at midline about 0.28 mm. *Head* with fronto-clypeal sulcus only vaguely less evident at middle, not distinctly interrupted. Frontal impressions not conspicuous. Clypeus with a few fine, scattered punctures. Anterior part of front finely and sparsely punctate except for some denser punctures behind the fronto-clypeal impression and the usual converging lines of punctures in the frontal impressions. Punctures not much denser or coarser between the eyes along the distinct transverse cervical suture just behind the eyes. *Pronotum* with setate punctures on the anterior part not much coarser than those on front but more regularly distributed over surface. Punctures coarser and some rugose sculpture along pronotal base between the plicae. Pronotal plicae about 1/2 length of pronotum at midline, impressed and curved at base but nearly straight slanting inward on disk. *Elytra* with moderately coarse setate punctures, but the punctures not deeply impressed. Transverse microsculpture distinct between setate punctures, but surface shining, not iridescent. Elytral plicae slightly longer than pronotal plicae, curved at base and then nearly straight slanting onto disk. *Venter* with apex of prosternal process slightly widened, sulcate, but shortened (in holotype only). Metacoxal laminae with coarse punctures in middle, and roughened areas along fore and back margins which may represent stridulatory organs. Middle tibiae curved. Basal abdominal sternites with transverse rows of large, deep setate punctures as usual. Last visible sternite with coarser setate punctures and some rough sculpture toward apex, but not conspicuously impressed, lateral basal impressions not conspicuous.

Allotype Female (= paratype female).— very similar to male except for shortened more obovate form and secondary sexual characters. *Elytra* with dense microsculpture but not strongly iridescent. Apex of prosternal process widened at base and then elongated as usual with a distinct longitudinal sulcus. Fronto-

clypeal impression almost complete across head, only slightly interrupted at middle.

Color.— Specimens are of much the same color as those of *B. mexicanus* when mature. Clypeus and fore part of front yellow or brownish yellow, rest of head back of transverse cervical suture brown. Pronotum largely yellow or brownish yellow, narrowly dark brown along hind margin and between the basal plicae. Elytra dark brown, not iridescent, and with only vague indications of darker and lighter areas toward margins. Venter mostly yellow or brownish yellow, darker in places along sutures and at joints as usual. Appendages mostly yellow.

Variation in the few specimens seen is largely confined to differences in coloration which may be attributed to the degree of hardening of the cuticle. Males from Mexico and Venezuela, with male genitalia apparently identical with those of the holotype, show the teneral pattern with distinct lighter stripes on the elytra and distinct dark humeral, postmedian, and preapical spots alongside associated with lighter areas between the dark spots and at the apex.

Distribution.— Holotype, allotype (= female paratype), and one female paratype from COSTA RICA, Turrialba, 1-19 July 1965, P.J. Spangler (NMNH). One male, one female paratype from MEXICO, Vera Cruz, Cuitlahuac, 10-12 August 1964, P.J. Spangler (FSCA). One male paratype from VENEZUELA, Guarico, 12 mi. S. Calabozo, Est. Biologica Los Llanos, 6-12 February 1969, ultraviolet light trap, Paul and Phyllis Spangler (NMNH).

Bidessonotus fallax J. Balfour-Browne

Bidessonotus fallax Balfour-Browne 1947: 429, Fig. 2 (Cuba).

Diagnosis.— A small dark species about 1.4 to 1.6 mm in total length. Related to *B. mobilis* and *B. rhampherus* by the shape of the aedeagus of the male external genitalia (Fig. 19). Fronto-clypeal sulcus completely across front. Elytral plicae about same length as pronotal plicae or slightly shorter. Prosternal process lanceolate with apex broadly but shallowly hollowed out or sulcate. Metacoxal laminae and basal abdominal sternites with coarse punctures about as in specimens of *B. pulicarius*. Last visible sternite in male with shallow large punctures and rugose sculpture on either side, but not conspicuously impressed; tiny rounded impressions on either side of base. Middle tibiae of male curved. Females with a minute tooth at the outer angle of the apical truncation of elytra (very difficult to see or absent in some specimens). *Color*. in mature specimens distinctly bicolorous, the light anterior part of pronotum contrasting with the dark brown head and very dark brown elytra and base of pronotum. *Venter* dark brown with appendages and underside of head light yellowish brown.

Distribution. I have seen specimens of *B. fallax* only from Cuba where it appears to come to light readily. I originally mistook it for *B. caraibus* so the name commemorates my youthful error. Specimens from the following localities have been examined: CUBA: Mantanzas, 1 km N. Playa Larga, Zapata Swamp, 2 May 1983, P.J. Spangler and Iliana Fernandez C.; Vienega Zapata at Playa Larga, Zapata Swamp, 10-11 Feb. 1981, D. Davis and P.J. Spangler. Pinar del Rio, San Vicente, 7 Feb. 1981, P.J. Spangler and A. Vega. Habana, Cayamas, various dates, E.A. Schwarz, all in NMNH.

Bidessonotus mobilis J. Balfour-Browne

Bidessonotus mobilis Balfour-Browne 1947: 427, Fig. 1 (Mexico, Tabasco, San Juan Bautista.)

Diagnosis.— A moderately large species, about 1.6 to 2.2 mm in total length, and about 0.76 to 1.0 mm in greatest width near middle of elytra. Fronto-clypeal sulcus interrupted at middle. Prosternal process broadly lanceolate, not sulcate. Elytral plicae a little longer than pronotal. Easily distinguished from all other species, except *B. fallax* and *B. rhampherens*, by the curious recurved aedeagus of the male. It is distinguishable from specimens of *B. fallax* by its larger size as well as the different aspect of the male aedeagus (Fig. 20), and from those of *B. rhampherens* by the different structure of the aedeagus which comes to an acute end in males of *B. mobilis* (Fig. 20) but in males of *B. rhampherens* the aedeagus is widened and flattened toward the apex (Fig. 21). In other characters the latter two species are similar to one another but they apparently are not allopatric; *B. mobilis* occurs in eastern Mexico and Central America while the other inhabits the western Cordillera of Mexico.

Male.— In the male of *B. mobilis* the head is much like that of *B. rampherens* except that the frontal impressions along the inside of the eyes are inconspicuous and indicated mainly by the rows of slightly coarser punctures. *Elytra* somewhat more coarsely punctate than on specimens of *B. rampherens*, the setigerous punctures more strongly impressed. The microsculpture of the elytra is evident, but does not give an iridescent cast to the surface. Roughened areas beneath the middle and hind femora are reduced, but with strigate sculpture. Last visible sternite impressed on either side toward the apex and the sculpture somewhat coarser toward apex. Female not seen.

Color.— Most of head, base of pronotum, and elytra dark brown; elytra with usual dark and light areas along outer margins; pronotal disk and side margins, clypeus, and appendages yellow or brownish yellow; meso- and metasterna ventrally dark brown; abdominal sternites yellowish brown or brownish yellow with darker transverse bands across middle. Holotype with suggestion of dark transverse bands of darker color across elytra. Fully mature individuals do not show any suggestion of dark banding except along the outer margins of elytra.

Distribution.— Besides the types from Mexico, I have seen this species from the following localities: MEXICO: San Luis Potosi, Clear stream at Palitla, Dec. 22, 1948, H.B. Leech (CAS). GUATEMALA: North of Morales on Atlantic Highway at milestone 239, 16-18 July 1965, P.J. Spangler (NMNH). BELIZE: Corazal Town, 1 Sept. 1967, G. and R. Lacy (NMNH): Cayo District, 14 km S. San Ignacio, 23 May 1986, at blacklight trap, P.J. Spangler and Robin A. Faitoute (NMNH).

Bidessonotus rhampherens sp. nov.

Diagnosis.— A moderately large species and specimens are similar to those of *B. mobilis*, about 1.8 to 2.0 mm in total length by about 0.8 to 1.04 mm in width at about the middle of the elytra. Body form in males elongate with the outline constricted between pronotum and elytra; somewhat more broadly ovate in females. Males may be separated from those of *B. mobilis* by reference to the shape of the aedeagus and parameres (Fig. 21). Prosternal process with apex narrow, sulcate.

Holotype Male.— Total length about 1.92 mm; greatest width near middle of elytra about 0.96 mm; width of pronotum at base about 0.76 mm; width of pronotum at apex about 0.48 mm; length of pronotum at midline about 0.36 mm.

Elongate oval, somewhat constricted at base of pronotum as in specimens of *B. inconspicuus*. *Head* finely punctate, the clypeal margin almost impunctate, less coarsely punctate on disk than on specimens of *B. inconpicuus*. Fronto-clypeal impression interrupted at middle. Discal impressions along inner margins of eyes distinct with rows of punctures slightly coarser than those on disk. *Pronotum* moderately coarsely punctate on disk, less coarsely than on specimens of *B. inconspicuus*. Punctures between basal plicae coarser than on disk, but not as coarse as on specimens of *B. inconspicuus* and less coarse and confluent just inside the basal plicae on either side. Basal pronotal plicae each about 1/2 length of pronotum at midline, each curved at base then almost straight slanting inward onto disk. *Elytra* with setigerous punctures less impressed than on pronotum. Elytral plicae distinctly impressed, nearly straight slightly longer than pronotal plicae. Microsculpture of head, pronotum, elytra, and venter reduced, most of surfaces smooth and shining. *Venter* with coarse punctures on middle of outer laminae of hind coxae and roughened places beneath middle and hind coxae which may be stridulation devices. Basal abdominal sternites with usual transverse rows of coarse setigerous punctures. Last sternite not transversely impressed and with setigerous punctures fine and more or less regularly distributed over sternite except for a tiny patch where the punctures are more closely spaced just before the apex. Prosternal process narrow, roughened, longitudinally sulcate. Mesotibiae rather feebly curved.

Color.— Head with clypeus brownish yellow and front and base dark brown; color particularly dark along base behind the transverse cervical stria, visible through translucent front margin of pronotum; pronotum dark brown between the basal plicae and with irregular extensions at middle toward the margins; most of disk and front margin of pronotum brownish yellow; elytra dark brown except along margins which are light brownish yellow; venter with legs, antennae, and mouthparts brownish yellow and most of under surface dark brown except along mid-line ventrally which is lighter yellowish brown.

Allotype Female (= paratype female).— Total length about 2.0 mm; greatest width near middle of elytra about 1.04 mm; width of pronotum at base 0.80 mm; width of pronotum at apex about 0.50 mm; length of pronotum at midline about 0.32 mm. Body outline as viewed from above somewhat more regularly oval than in male. Prosternal process medially sulcate. Elytral punctation fine, the microsculpture giving a violet iridescence to surface. Elytra not toothed at margin apically.

Distribution.— Holotype, allotype, and 3 paratypes from MEXICO: Michoacan, Patzcuaro, 7 July 1964, Paul J. Spangler (NMNH). Two paratypes, Jalisco, 25 mi. S. of Guadalajara, 6 July 1964, Paul J. Spangler (NMNH).

Bidessonotus melanocephalus Régimbart

Bidessonotus melanocephalus Régimbart 1895: 332 (Brasil, in tobacco).

Diagnosis.— A dark species similar to *B. inconspicuus* but with very distinctive male external genitalia (Fig. 22). The darkened base of the head and venter should be diagnostic in mature specimens of either sex. The microsculpture is less impressed on the surface of pronotum and elytra than in some species, and the surface is often shining with a reddish cast. Head and pronotum less coarsely punctate but elytra more coarsely punctate than on specimens of *B. inconspicuus*. Fronto-clypeal sulcus nearly complete across front only shallowly interrupted at middle. Elytral plicae about 1 1/4 to 1 1/2 times as long as pronotal plicae. Prosternal process lanceolate but not culcate in

either sex, covered with long yellow setae. Last visible sternite not transversely impressed or otherwise modified except for coarser setate punctures and some rugose sculpture toward the apex. The male external genitalia diagnostic; aedeagus more heavily sclerotized than in most species; lateral lobes or parameres relatively simple. Length about 1.7 to 2.25 mm; greatest width near middle of elytra about 0.8 to 1.0 mm.

Females are similar to the males except in the secondary sexual characters, and purplish iridescence is lacking on the elytra. Some individuals of both sexes show indications of a teneral color pattern with dark subhumeral, post-median, and preapical dark spots with lighter areas between and at the apex.

Distribution.— I have seen specimens which I take to be *B. melanocephalus* from the following localities: BRASIL, Bahia, Encruzilhada, 960 meters, ultra-violet light trap, 7 Nov. 1972, M. Alvarenga (FSCA); Bahia, 5 km west of Ilheus, 4 July 1969, Paul and Phyllis Spangler (NMNH). PERU, Huanuco, Tingo Maria, April 19-24, 1969, Paul and Phyllis Spangler (NMNH).

Bidessonotus truncatus J. Balfour-Browne

Diagnosis.— A medium sized to small species about 1.6 to 2.1 mm long with unique male external genitalia, the aedeagus with a recurved subterminal horn (Fig. 23). Fronto-clypeal sulcus nearly or quite complete across front. Apex of prosternal process lanceolate, but not sulcate; narrow and nearly parallel sided in female, not sulcate, but densely covered with setate punctures. Apices of elytra in females more distinctly truncate than in most species. Color.similar to that of specimens of *B. mexicanus* with darkened base of head, narrowly darkened pronotal base between the plicae, and brown eldytral which have a purplish cast in females due to the microsculpture.

Distribution.— I have examined specimens with similar male external genitalia from the following localities. BOLIVIA, Santa Cruz, 11-12 May 1969, Paul and Phyllis Spangler (NMNH). BRASIL: Mato Grosso, Jacaré, Parque Nacional Xingu, Nov. 1965, Moacir Alvarenga and W.C.A. Bokermann (FSCA). GUYANA: Mazaruni-Potaro, District, Takutu Mountains, 6°15'N, 59°5'W, 17 Dec. 1983, Earthwatch Research Expedition, W.E. Steiner and P.J. Spangler (NMNH). PARAGUAY: Central, 15 km N.E. Asuncion, 21 June 1969, Paul and Phyllis Spangler. San Bernardino, 22 June 1969, Paul and Phyllis Spangler (NMNH). PERU: Madre de Dios, Rio Tambopata Res., 30 km S.W. Pto. Maldanado, (subtropical moist forest), 16-20 Nov. 1969, J.B. Heppner (NMNH). SURINAME: Kraaka-Phedra Road, Dist. 25, 25 Oct. 1967 (tiny forest pool with much fallen foliage), Borys Malkin (FSCA). TRINIDAD: Cumoto, 1929, P.J. Darlington, Jr. (MCZ).

Bidessonotus browneanus J. Balfour-Browne

Bidessonotus browneanus Balfour-Browne 1947: 441, Fig. 8 (Jamaica).

Diagnosis.— A medium size to small species ranging in total length from about 1.6 to nearly 2 mm, and in width near middle of elytra from about 0.8 to 0.96 mm. Male external genitalia very distinctive (Fig. 24), and although there may be slight differences in populations from Jamaica, the Dominican Republic, and Puerto Rico, most variation seems to be due to differential changes in drying of the parameres.

Male.— The large axe-like aedeagus varies only slightly from island to island. *Head* finely punctate in front, a little more coarsely punctate on disk but

very finely punctate compared with that of specimens of *B. inconspicuus*. Frontal impressions along margins of eyes with slightly coarser punctures in rows. Fronto-clypeal impression distinct or indistinct, sometimes interrupted at middle, sometimes imperceptibly so. *Pronotum* with discal punctures coarser than in specimens of *B. inconspicuus*, but those between the basal plicae finer and less often united than in specimens of *B. inconspicuus*. Basal plicae curved at base and then recurved onto disk of pronotum, about 1/2 length of pronotum at midline. Elytral setigerous punctures not strongly impressed about the same as the pronotal punctures. Elytral plicae each about 1 1/2 length of a pronotal plicae, well impressed. Microsculpture of head, pronotum, and elytral not strongly impressed, surfaces shining. Outer lamina of hind coxae with coarser setigerous punctures medially and rugose areas beneath middle and hind femora which may be stridulating devices. Last visible sternite transversely impressed with setigerous punctures, but not with coarse, elongate strigae as in some species sometimes with distinct patch of setae in a tiny patch toward apex. First and second abdominal sternites with rows of coarse punctures as usual in genus. Middle tibiae of male curved. Prosternal process narrowly lanceolate, sulcate in both sexes. *Female* similar to male except for secondary sexual characters.

Color.— Head brownish yellow, darker along base; pronotum about same color as head, darker between the basal plicae; elytra dark brown with vague indications of lineate markings on disk and a subhumeral, postmedian, and preapical dark spot separated by lighter areas along outer margins. *Venter* mostly brown shining; legs and antennae lighter yellowish brown.

Distribution.— Besides the types of *B. browneanus* from JAMAICA, I have seen this species or its choromorphs from JAMAICA, St. Catherine Parish, Bushy Park, Worth Park and Spanish Town (Institute of Jamaica and FSCA) and Porus, 28 Feb. 1937, flying at dusk, R.E. Blackwelder (NMNH), and Good Hope, 11 August 1966, H.F. Howden (FSCA). DOMINICAN REPUBLIC, Altagarcia, Nisibon, 3 May 1978, R.E. Woodruff and G.B. Fairchild (FSCA) in large numbers at ultraviolet light trap; El Siebo, 17 km S.E. Rio Chavon, 9 June 1976, ultraviolet light trap, R.E. Woodruff (FSCA); PUERTO RICO, Mayaguez, 30 June 1940, ultraviolet light trap, R.E. Woodruff (1 male, FSCA). CUBA: Several localities particularly the Zapata Swamp. I believe the island forms may eventually be shown to be subspecies.

Bidessonotus peregrinus J. Balfour-Browne

Bidessus adumbratus Sharp 1887: 754, *nec* Clark.
Bidessonotus peregrinus Balfour-Browne 1947: 444. Fig. 9 (Panama, Pearl Islands).

Diagnosis.— A small species measuring about 1.3 to 1.8 mm in total length and about 0.72 to 0.9 mm in width near middle of elytra. The lateral outline of the male aedeagus is diagnostic (Fig. 25). Elytral plicae about 1 1/2 times as long as pronotal. Fronto-clypeal impression nearly complete across front. Female usually with distinct purplish iridescence on elytra from the dense microsculpture. Prosternal process narrow, sulcate. Male sometimes with lighter areas at elytral margin extended onto disk.

Male.— *Head* finely punctate on clypeus and on disk with even the rows of punctures in the frontal impressions reduced as well as those in the fronto-clypeal impression which is nearly complete across the front. *Pronotum* with discal punctures fine, but those along base of pronotum between the plicae coarser and especially coarse and partly confluent punctures adjacent to the basal plicae within and extending outward nearly to the margin. Basal plicae deep,

curved onto disk, about 1/2 length of pronotum at midline. *Elytra* moderately coarsely punctate, the setigerous punctures on disk about as coarse as those on base of pronotum. Elytral basal plicae deeply impressed, curved at base and nearly straight extending onto disk, about 1 1/2 times as long as pronotal plicae. Microsculpture reduced, most body surfaces smooth and shining. *Venter* with outer laminae of hind coxae with very coarse setigerous punctures over much of surface. Roughened areas beneath middle and hind femora reduced, but finely strigate. Basal sternites with usual transverse rows of coarse punctures. Last visible sternite not greatly modified, setate punctures distributed over surface with coarser punctures near hind margins. Prosternal process narrow in both sexes longitudinally sulcate. Middle tibiae feebly curved in male.

Female.— Similar to males except for secondary sexual characters and color.

Color.— Head and pronotum brownish yellow. Elytra dark brown with microsculpture giving an iridescent purple sheen in females. Venter with legs, antennae, and mouthparts brownish yellow and most body surfaces dark brown. Elytra sometimes with lighter areas extending inward on elytra, but humeral, postmedian, and preapical dark spots only vaguely indicated.

Distribution.— Besides the unique male type, I have seen this species from Panama, C.Z. Albrook Forest site, various dates at ultraviolet light trap, R.S. Hutton (FSCA, NMNH).

Bidessonotus regimbarti J. Balfour-Browne

Bidessonotus adumbratus (Clark) Régimbart 1895:336 336, pl. 8, fig. 12, 12a, *nec* Clark, *nec* Sharp (Mexico in tobacco).

Bidessonotus regimbarti Balfour-Browne 1947: 430 (*nom. nov.* for *Bidessonotus adumbratus* Régimbart *nec* Clark, *nec* Sharp (Mexico).

This name may be clarified when specimens in the Régimbart collection in the Paris Museum (MNHN) are examined. I have not recognized it among my material. The species which I have described as *B. otrerus* from Colombia and Venezuela fits the description and is about the right size (total length 1.75-2.0 mm), but the prosternal process is definitely not triangular and sulcate in the form of a small trench. The description of the darker and lighter spots along the elytral margins fit most species of the genus before the full adult coloration develops. *Bidessonotus vicinus* may be this species, but the prosternal process although feebly sulcate can scarcely be described as having a nearly triangular process. The average size of specimens of *B. vicinus* (total length 1.5-1.7 mm) is also too small. Specimens of *B. vicinus* occurs abundantly in Belize, Venezuela, and the Canal Zone, but I have not seen any from Mexico.

Bidessonotus bicolor Guignot

Bidessonotus bicolor Guignot 1957: 36, Fig. 3 (Brasil, Para, Cachimbo).

The type of this species was not located in the Paris museum (MNHN), nor was it recognized among the material examined. The species may be based on a teneral specimen of *B. melanocephalus* which has not yet developed the very dark head and venter. The prosternal process is described as subrectangular, but no mention is made of a longitudinal sulcus. Guignot's figure of the male external genitalia (Fig. 26) shows a distinct tooth near the outer apex of the aedeagal "blade" and a distinctly pointed basal angle to the "blade" both of which are unlike specimens of *B. melanocephalus* that I have seen. The

parameres are described as dilated after the base, a little narrowed then again dilated at the summit which is rounded and bears a few short hairs. The length is given as 2.1 mm which would place the species among the larger species of the genus.

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